AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions:

Claims 1-46. (Cancelled)

47. (New) A method comprising:

independently developing an equivalent set of network attributes at each of a plurality of switches in a network without referring to the network's topology, each said equivalent set of network attributes to define the network's topology; and

independently maintaining the equivalent set of network attributes at each of the plurality of switches without referring to the network's topology to reflect a change in the network's topology.

48. (New) The method of claim 47 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement a stack identification method comprising:

setting a current stack identifier to an initial value;

sending the current stack identifier from each intra-stack port;

monitoring each intra-stack port for a neighboring stack identifier;

if a neighboring stack identifier is received, adopting either the current stack identifier or the neighboring stack identifier as the current stack identifier based on a criteria; and

repeating the broadcasting, monitoring, and adopting.

49. (New) The method of claim 48 wherein the initial value comprises a media access control (MAC) address of a switch performing the stack identification method.

50. (New) The method of claim 48 wherein the criteria comprises adopting a higher stack identifier value.

51. (New) The method of claim 47 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an adjacency monitoring method comprising:

sending from each intra-stack port a local attribute, said local attribute comprising a local stack identifier, a local switch identifier, and a local port number corresponding to the port from which the local attribute is sent;

monitoring each intra-stack port for a neighboring attribute, said neighboring attribute comprising a neighbor's stack identifier, a neighbor's switch identifier, and a neighbor's port number corresponding to the port from which the neighboring attribute was sent;

if the neighboring attribute is received, determining if the local stack identifier and the neighbor's stack identifier are equivalent;

if the local stack identifier and the neighbor's stack identifier are equivalent, recognizing an adjacency comprising the local switch identifier, the

local port number at which the neighboring attribute was received, the neighbor's stack identifier, and the neighbor's port number from which the neighboring attribute was sent; and

repeating the sending, monitoring, determining, and recognizing.

52. (New) The method of claim 51 wherein the adjacency monitoring method further comprises:

generating a new incarnation identifier for each new adjacency that is recognized.

53. (New) The method of claim 47 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

identifying an incarnation identifier for an adjacency, said adjacency defining a network connection with a neighboring switch;

storing the adjacency with the incarnation identifier locally as an attribute in the equivalent set of network attributes; and

multicasting the attribute from each intra-stack port.

54. (New) The method of claim 53 wherein the attribute registration method further comprises:

monitoring the attribute for a change in the network connection; and

if a change to the attribute occurs; deregistering the attribute from local storage, and repeating the identifying, storing, and multicasting.

55. (New) The method of claim 47, wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

receiving an attribute in a multicast from a neighboring switch, said attribute defining a connection between two switches in the network;

determining if the attribute has been previously stored locally; and

if the attribute has not been previously stored, storing the attribute locally and forwarding the attribute from each intra-stack port except the intra-stack port at which the attribute was received.

56. (New) The method of claim 47, wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

receiving an attribute in a multicast from a neighboring switch, said attribute defining a connection between two switches in the network;

determining if the attribute has been previously stored locally;

determining if the attribute is caught in a loop; and

if the attribute has not been previously stored locally and is not caught in a loop, storing the attribute locally and forwarding the attribute from each intra-stack port except the intra-stack port at which the attribute was received.

57. (New) The method of claim 47, wherein, to independently maintain the equivalent set of network attributes, each of the plurality of switches to implement a method comprising:

determining if a local switch identifier is equal to a stack identifier; and

if the local switch identifier is equal to the stack identifier, implementing a master switch method comprising

obtaining a spanning tree from the equivalent set of network attributes,

multicasting the spanning tree as an attribute from each intra-stack port,

monitoring the equivalent set of network attributes for an adjacency change, and

if an adjacency change is detected, repeating the obtaining, multicasting and monitoring.

58. (New) A machine readable medium having stored thereon machine executable instructions that when executed implement a method comprising:

independently developing an equivalent set of network attributes at each of a plurality of switches in a network without referring to the network's topology, each said equivalent set of network attributes to define the network's topology; and

independently maintaining the equivalent set of network attributes at each of the plurality of switches without referring to the network's topology to reflect a change in the network's topology.

59. (New) The machine readable medium of claim 58 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement a stack identification method comprising:

setting a current stack identifier to an initial value;

sending the current stack identifier from each intra-stack port;

monitoring each intra-stack port for a neighboring stack identifier;

if a neighboring stack identifier is received, adopting either the current stack identifier or the neighboring stack identifier as the current stack identifier based on a criteria; and

repeating the broadcasting, monitoring, and adopting.

60. (New) The machine readable medium of claim 58 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an adjacency monitoring method comprising:

sending from each intra-stack port a local attribute, said local attribute comprising a local stack identifier, a local switch identifier, and a local port number corresponding to the port from which the local attribute is sent;

monitoring each intra-stack port for a neighboring attribute, said neighboring attribute comprising a neighbor's stack identifier, a neighbor's switch

identifier, and a neighbor's port number corresponding to the port from which the neighboring attribute was sent;

if the neighboring attribute is received, determining if the local stack identifier and the neighbor's stack identifier are equivalent;

if the local stack identifier and the neighbor's stack identifier are equivalent, recognizing an adjacency comprising the local switch identifier, the local port number at which the neighboring attribute was received, the neighbor's stack identifier, and the neighbor's port number from which the neighboring attribute was sent; and

repeating the sending, monitoring, determining, and recognizing.

61. (New) The machine readable medium of claim 58 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

storing an adjacency locally as an attribute in the equivalent set of network attributes, said adjacency defining a network connection with a neighboring switch; and

multicasting the attribute from each intra-stack port.

62. (New) The machine readable medium of claim 58, wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

receiving an attribute in a multicast from a neighboring switch;

determining if the attribute has been previously stored locally;

determining if the attribute is caught in a loop; and

if the attribute has not been previously stored locally and is not caught in a loop, storing the attribute locally and forwarding the attribute from each intra-stack port except the intra-stack port at which the attribute was received.

63. (New) The machine readable medium of claim 58, wherein, to independently maintain the equivalent set of network attributes, each of the plurality of switches to implement a method comprising:

determining if a local switch identifier is equal to a stack identifier; and

if the local switch identifier is equal to the stack identifier, implementing a master switch method comprising

obtaining a spanning tree from the equivalent set of network attributes,

multicasting the spanning tree as an attribute from each intra-stack port,

monitoring the equivalent set of network attributes for an adjacency change, and

if an adjacency change is detected, repeating the obtaining, multicasting and monitoring.

64. (New) A system comprising:

a plurality of switches coupled to form a network; and

a machine readable medium associated with each switch having stored thereon machine executable instructions that when executed implement a method comprising:

independently developing an equivalent set of network attributes at each of the plurality of switches without referring to the network's topology, each said equivalent set of network attributes to define the network's topology; and

independently maintaining the equivalent set of network attributes at each of the plurality of switches without referring to the network's topology to reflect a change in the network's topology.

65. (New) The system of claim 64, wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an adjacency monitoring method comprising:

sending from each intra-stack port a local attribute, said local attribute comprising a local stack identifier, a local switch identifier, and a local port number corresponding to the port from which the local attribute is sent;

monitoring each intra-stack port for a neighboring attribute, said neighboring attribute comprising a neighbor's stack identifier, a neighbor's switch identifier, and a neighbor's port number corresponding to the port from which the neighboring attribute was sent;

if the neighboring attribute is received, determining if the local stack identifier and the neighbor's stack identifier are equivalent;

if the local stack identifier and the neighbor's stack identifier are equivalent, recognizing an adjacency comprising the local switch identifier, the local port number at which the neighboring attribute was received, the neighbor's stack identifier, and the neighbor's port number from which the neighboring attribute was sent; and

repeating the sending, monitoring, determining, and recognizing.

66. (New) The system of claim 64 wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

storing an adjacency locally as an attribute in the equivalent set of network attributes, said adjacency defining a network connection with a neighboring switch; and

multicasting the attribute from each intra-stack port.

67. (New) The system of claim 64, wherein, to independently develop the equivalent set of network attributes, each of the plurality of switches is to implement an attribute registration method comprising:

receiving an attribute in a multicast from a neighboring switch;

determining if the attribute has been previously stored locally;

determining if the attribute is caught in a loop; and

if the attribute has not been previously stored locally and is not caught in a loop, storing the attribute locally and forwarding the attribute from each intra-stack port except the intra-stack port at which the attribute was received.

68. (New) The system of claim 64, wherein, to independently maintain the equivalent set of network attributes, each of the plurality of switches to implement a method comprising:

determining if a local switch identifier is equal to a stack identifier; and

if the local switch identifier is equal to the stack identifier, implementing a master switch method comprising

obtaining a spanning tree from the equivalent set of network attributes,

multicasting the spanning tree as an attribute from each intra-stack port,

monitoring the equivalent set of network attributes for an adjacency change, and

if an adjacency change is detected, repeating the obtaining, multicasting and monitoring.